

1. (Currently Amended) A method computer program product embodied on a computer readable medium and comprising code that, when executed, causes a computer to model and analyze a plurality of computing workloads, the method code comprising:

specifying a data and model flow for analyzing the performance of a computer system by selecting at least two computer system workload models from the group consisting of a workload prediction model, a performance analysis model, an optimization model, and a user-defined model, and specifying an order in which the models are to be executed, the output data of at least one model serving as input data to at least one other distinct model, the data and model flow further specifying one of a predefined data collection module and a user defined data collection module to be used for collecting performance data;

a data collection module configured to dynamically populating populate a measurement object in response to a polling inquiry from a modeling module, the populated measurement object comprising updated performance data associated with the operation of a computer system, the performance data gathered during real time operation of the computing workloads by one of a predefined data collection module and a user defined data collection module as specified by the data and model flow,

the computer system comprising at least one physical processor and physical storage, the computer system executing a plurality of computing workloads;

~~wherein the modeling module is configured to execute~~ executing a the plurality of  
~~models that use~~ by using the gathered performance data as an input to at  
least one of the models wherein output data from at least one of the  
models serves as input data to at least one other model, and wherein the  
plurality of models are executed in the order defined by the specified data  
and model flow; ~~the modeling module is further configured such that~~  
~~output data from a first model serves as input data for a second model in a~~  
hierarchy of models; and  
~~a data analysis module configured to presenting~~ analysis data compiled from the  
modeling module; ~~and~~  
~~a framework configured to manage the data collection module, the modeling~~  
~~module, and the data analysis module in response to a predefined data and~~  
~~model flow.~~

2. (Cancelled).
3. (Cancelled).
4. (Cancelled).
5. (Currently amended) The method ~~computer program product~~ of Claim 1, wherein ~~the framework~~ specifying a data and model flow is integrated within a predefined user interface.
6. (Currently amended) The method ~~computer program product~~ of Claim 1, wherein ~~the framework~~ specifying a data and model flow is integrated within a third-party application.

7. (Cancelled).
8. (Currently amended) The method ~~computer program product~~ of Claim 1, wherein the modeling module is further configured to execute a plurality of models in parallel.
9. (Currently amended) The method ~~computer program product~~ of Claim 1, ~~wherein the framework is configured to~~ further comprising implementing the predefined data and model flow at least in part by defining a workload software object from a persistent data structure, the workload software object comprising parameters for gathering performance data, executing the modeling module, and presenting analysis data. ~~the data collection module, modeling module, and data analysis module.~~
10. (Currently amended) The method ~~computer program product~~ of Claim 1, further comprising utilizing an editor configured to allow a user to define and store the predefined data and model flow.
11. (Cancelled).
12. (Currently Amended) A ~~computer program product~~ method for utilizing a software editor for defining, revising, and storing a data and model flow for modeling and analyzing a plurality of computing workloads, the ~~method comprising computer program product embodied on a computer readable medium and comprising computer executable code that, when executed comprises:~~  
  
~~an identification module for gathering an identifier for a data and model flow;~~

~~a measurement module~~ for designating a data collection module configured to

dynamically populate a measurement object in response to a polling inquiry from a modeling module, the measurement object comprising updated performance data associated with the operation of a computer system, the computer system comprising at least one physical processor and physical storage, the computer system executing a plurality of computing workloads;

wherein the ~~a~~ modeling module designates a plurality of models that use the updated performance data wherein the modeling module is further configured such that output data from a first model serves as input data for a second model in a hierarchy of models;

utilizing a metric map for defining model variables required to analyze analysis data compiled from the at least one model;

utilizing a plot module for designating a data analysis module configured to present analysis data compiled from the at least one model.

13. (Currently amended) The method ~~computer program product~~ of Claim 12, further comprising utilizing a storage module configured to store and retrieve the data and model flow from a persistent data structure.

14. (Currently amended) The method ~~computer program product~~ of Claim 13, wherein the persistent data structure comprises an eXtensible Markup Language (XML) file.

15. (Currently amended) The method ~~computer program product~~ of Claim 13, wherein the persistent data structure comprises a database.
16. (Cancelled).
17. (Cancelled).
18. (Cancelled).
19. (Cancelled).
20. (Cancelled).
21. (Currently Amended) A method for ~~computer program product embodied on a computer readable medium and comprising code that, when executed, causes a computer to~~ implementing an application programming interface (API) for real-time modeling and analyzing of computing workloads, comprising:
- utilizing a measurement software class configured to dynamically populate a measurement object in response to a polling inquiry from an instance of a run-time manager software class, the measurement object comprising updated performance data associated with the operation of a computer system, the computer system comprising at least one physical processor and physical storage, the computer system executing a plurality of computing workloads;

utilizing a workload software class that defines a data and model flow associated with the computer system, the workload software class comprising two or more model software classes that utilize the gathered performance data to model attributes of the computer system wherein output data from a first model serves as input data for a second model in a hierarchy of models; and

wherein the a run-time manager software class is configured to periodically poll for measurement objects instantiated from the measurement software class and execute one or more model objects instantiated from the one or more model software classes in response to the data and model flow defined by one or more workload objects.

22. (Currently amended) The method ~~computer program product~~ of Claim 21, further comprising utilizing a real-time interface module configured to start and stop execution of one or more workload objects.

23. (Currently amended) The method ~~computer program product~~ of Claim 21, wherein the interface is further configured to present analysis data compiled by a plot object instantiated from a plot class, the analysis data associated with a specific workload object identified by a user.

24. (Currently Amended) A method ~~computer program product embodied on a computer-readable medium and comprising code~~ for modeling and analyzing a plurality of

computing workloads ~~that, the method comprising when executed, causes a computer to perform~~  
the following:

dynamically populating a measurement object in response to a polling inquiry  
from a modeling module, the measurement object comprising updated  
performance data associated with the operation of a computer system, the  
computer system comprising at least one physical processor and physical  
storage, the computer system executing a plurality of computing  
workloads;

executing a plurality of models that use the gathered performance data wherein  
the modeling module is further configured such that output data from a  
first model serves as input data for a second model in a hierarchy of  
models;

presenting analysis data compiled from the at least one model; and

providing a framework configured to manage the gathering of performance data,  
the execution of the at least one model, and the presentation of the analysis  
data in response to a predefined data and model flow.

25. (Currently amended) The method ~~computer program product~~ of Claim 24,  
wherein the framework is executed from within a third-party application.

26. (Cancelled).

27. (Cancelled).

28. (Currently Amended) A method ~~computer program product embodied on a computer readable medium and comprising code~~ for modeling and analyzing a plurality of computing workloads ~~that, the method comprising when executed, causes a computer to perform the following:~~

specifying a data and model flow for monitoring a computer system;

invoking a modeling and analysis utility, wherein the data and model flow

defines performance data that is dynamically populated in a measurement object in response to a polling inquiry from a modeling module, the measurement object comprising updated performance data associated with the operation of a computer system, the computer system comprising at least one physical processor and physical storage, the computer system executing a plurality of computing workloads, and models that are executed periodically using the performance data to compile analysis data representative of results from one or more of the models wherein output data from a first model serves as input data for a second model in a hierarchy of models; and

receiving a real-time graphical representation of the analysis data from the modeling and analysis utility, in response to an event.

29. (Currently amended) The method ~~computer program product~~ of Claim 28, wherein the event comprises analysis data that fails to satisfy a threshold value.



30. (Currently amended) The method ~~computer program product~~ of Claim 28, wherein the event comprises a user request, the modeling and analysis utility presenting the graphical representation of the analysis data to a user by way of a user-defined plotting module.